

## **In the Specification**

Please amend the paragraph beginning at line 2 of page 1 as follows:

--This is a continuation-in-part of U.S. Patent Application ~~09/487,095~~  
6,650,653 "*Software-Based Digital Receiver Adaptable to Multiple  
Multiplexing Schemes*," ~~filed by Horng et al. on January 19, 2000~~ issued to  
Horng, et al., on November 18, 2003.

Please amend the paragraph beginning at line 11 of page 2 as follows:

-- Recently, minimum mean square error (MMSE) receivers have been developed. As an advantage, a MMSE receiver has a lower complexity and the detection decision is made on a per symbol basis. In addition, a MMSE receiver with space diversity features has been described for multi-user detection, see Cho et al., "*Adaptive Interference Cancellation with Diversity Combining for a DS-CDMA System in Rayleigh Fading*," Proc. of IEEE VTC'99, May 1999. Due to the use of diversity combining technique, network performance and capacity are improved.--

Please amend the paragraph beginning at line 5 of page 5 as follows:

-- Each antenna 101 is connected to a time-frequency rake (T-F Rake) receiver 200, see Figure 2 for details. The outputs 209 of each T-F rake

receiver 200, i.e.,  $z_{ij}$  for  $j=1, 2, \dots, N$ , are sampled at symbol times  $T_b$  103 to ~~form a~~ form down-sampled signals  $u_{ij}$  104. Each down-sampled signal  $u_{ij}$  is filtered for interference cancellation and channel equalization by a MMSE adaptive filter based interference canceller (IC) 300, see Figure 3.--

Please amend the paragraph beginning at line 12 of page 5 as follows:

--The IC 300 uses a training signal 105 during an initialization stage to establish weightings for coefficients of equalizer taps of the interference canceller. The MMSE based IC 300 outputs two signals, an error signal  $E_{ij}$  308 and a contributing symbol  $C_{ij}$  309, for data decision by a combined 110. The combiner makes a symbol decision  $d$  109 by maximizing the ~~ratio~~ ratio for the combined contributing symbols 309 from the ICs 300.--